33

nel capsule is shown in FIG. 7B. In the exemplary embodiment, each access channel capsule 712 comprises preamble 722, one or more message capsules 724, and padding bits 726. Each message capsule 724 comprises message length (MSG LEN) field 732, message body 734, and CRC parity bits 736. 5 XVII. Reverse Link NACK Channel

In the present invention, mobile station 6 transmits the NACK messages on the data channel. The NACK message is generated for each packet received in error by mobile station **6**. In the exemplary embodiment, the NACK messages can be transmitted using the Blank and Burst signaling data format as disclosed in the aforementioned U.S. Pat. No. 5,504,773.

Although the present invention has been described in the context of a NACK protocol, the use of an ACK protocol can be contemplated and are within the scope of the present 15 invention.

The previous description of the preferred embodiments is provided to enable any person skilled in the art to make or use the present invention. The various modifications to these embodiments will be readily apparent to those skilled in the 20 art, and the generic principles defined herein may be applied to other embodiments without the use of the inventive faculty. Thus, the present invention is not intended to be limited to the embodiments shown herein but is to be accorded the widest scope consistent with the principles and novel features dis- 25 closed herein.

What is claimed is:

1. A method in a wireless communication system, compris-

receiving a pilot from a base station;

measuring channel quality of a link in the wireless communication system based on the pilot received from the

determining a quality indicator based on the channel qual- 35 ity of the link, wherein the quality indicator is associated with a modulation format in a set of modulation formats and a packet size in a set of packet sizes;

transmitting the quality indicator to the base station; and receiving data as a function of the quality indicator.

2. The method as in claim 1, wherein measuring channel quality of the link comprises:

periodically measuring Carrier-to-Interference (C/I) of the

- ing C/I comprises:
 - at every time slot measuring Carrier-to-Interference (C/I) of the link.
- 4. The method as in claim 1, wherein the receiving data comprises receiving data transmitted based on the modula- 50
- 5. The method as in claim 1, wherein the quality indicator is an index, and wherein the index specifies the modulation format.
 - **6**. The method as in claim **1**, further comprising: determining a data rate based on the channel quality; determining the modulation format as a function of the data rate; and

determining the quality indicator as a function of the data rate and the modulation format.

- 7. The method as in claim 6, wherein the modulation format is associated with at least one data rate in a set of data
- 8. The method as in claim 1, wherein the quality indicator is further associated with a data rate in a set of data rates.
- 9. The method as in claim 1, wherein the modulation format comprises quadrature phase shift keying (QPSK).

34

- 10. The method as in claim 1, wherein the modulation format comprises quadrature amplitude modulation (QAM).
- 11. The method as in claim 1, wherein the modulation format comprises 16 quadrature amplitude modulation (16-QAM).
- 12. The method as in claim 1, wherein the pilot is a common pilot sent to a plurality of terminals.
- 13. An apparatus for a wireless communication system, comprising:

means for receiving a pilot from a base station;

means for measuring channel quality of a link in the wireless communication system based on the pilot received from the base station;

means for determining a quality indicator based on the channel quality of the link, wherein the quality indicator is associated with a modulation format in a set of modulation formats and a packet size in a set of packet sizes; means for transmitting the quality indicator to the base station; and

means for receiving data as a function of the quality indicator.

- 14. The apparatus as in claim 13, wherein the means for measuring channel quality of the link comprises:
 - means for periodically measuring Carrier-to-Interference (C/I) of the link.
- 15. The apparatus as in claim 14, wherein means for periodically measuring C/I comprises:

means for measuring Carrier-to-Interference (C/I) of the link at every time slot.

- 16. The apparatus as in claim 13, wherein the means for receiving data comprises means for receiving data transmitted based on the modulation format.
 - 17. The apparatus as in claim 13, wherein the quality indicator is an index, and wherein the index specifies the modulation format.
 - 18. The apparatus as in claim 13, further comprising: means for determining a data rate based on the channel quality:

means for determining the modulation format as a function of the data rate; and

means for determining the quality indicator as a function of the data rate and the modulation format.

- 19. The apparatus as in claim 18, wherein the transmission modulation format is associated with at least one data rate in a set of data rates.
- 20. The apparatus as in claim 13, wherein the quality indi-3. The method as in claim 2, wherein periodically measur- 45 cator is further associated with a data rate in a set of data rates.
 - 21. The apparatus as in any of claims 13 to 20, wherein the apparatus is a non-transitory computer-readable medium encoded with a computer program configured to increase data throughput and efficiency when coupled to a computing device.
 - 22. The apparatus as in claim 13, wherein the modulation format comprises quadrature phase shift keying (QPSK).
 - 23. The apparatus as in claim 13, wherein the modulation format comprises quadrature amplitude modulation (QAM).
 - 24. The apparatus as in claim 13, wherein the modulation format comprises 16 quadrature amplitude modulation (16-QAM).
 - 25. The apparatus as in claim 13, wherein the pilot is a common pilot sent to a plurality of terminals.
 - 26. A non-transitory computer-readable medium encoded 60 with a computer program for a communication system, com-

instructions for receiving a pilot from a base station;

instructions for measuring channel quality of a link in the communication system based on the pilot received from the base station:

instructions for determining a quality indicator based on the channel quality of the link, wherein the quality indi-